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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,486	12/04/2000	Tomoya Yoneda	35C.14973	4368
5514	7590	03/24/2004	EXAMINER GIBBS, HEATHER D	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			ART UNIT 2622	PAPER NUMBER 7

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/727,486

Applicant(s)

YONEDA ET AL.

Examiner

Heather D Gibbs

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 13 and 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.6.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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DETAILED ACTION

*Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. Claims 1 and 11 are objected to because of the following informalities: insert a colon (:) after the word "comprising". Appropriate correction is required.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6,10-11,18 are rejected under 35 U.S.C. 102(e) as being anticipated by Miida (US 6,051,857).

Regarding claim 1, which is representative of claim 11, Miida teaches of a solid stage imaging device of an amplification type, comprising: a plurality of picture elements arranged two-dimensionally each including a photoelectric conversion element and a transistor for amplification (Col 7 Lines 53-61), wherein a semiconductor light-receiving region of a first conductivity type serving as each photoelectric conversion element is disposed in a common well 15 comprising: a semiconductor region of the first conductivity type serving as a

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substrate of the first conductivity type [p type] (Col 7 Lines 62-67), wherein a semiconductor region of the first conductivity type serving as a substrate of the first conductivity type [p type] (Col 8 Lines 55-60), wherein a semiconductor region of the first conductivity type serving as a source and drain of each transistor for amplification is disposed in the common well 15 (Fig 2), and wherein a plurality of contacts for supplying a reference voltage to the common well are disposed inside a picture element array area of the common well (Col 8 Lines 10-14).

Considering claim 2, Miida teaches wherein the plurality of the contacts are disposed inside the picture element array at determined intervals (Col 9 Lines 48-56).

Regarding claim 3, Miida teaches wherein the contact is disposed for each picture element (Col 10 Lines 4-6).

Considering claim 4, Miida teaches wherein wirings connected to the contacts are disposed in a row direction or a column direction of the picture element array area at predetermined intervals (Col 9 Lines 48-56).

Considering claim 5, Miida teaches wherein the contacts are disposed for every n rows of the picture element array area and the wirings connected to the contacts are disposed for every m columns of the picture element array area (Col 9 Lines 48-56)

Considering claim 6, Miida teaches wherein the wirings connected to the contacts are disposed for every m rows of the picture element array area and the contacts are disposed for every n columns of the picture element array area (Col 9 Lines 48-56).

Regarding claim 10, Miida teaches wherein the contacts are also disposed around the picture element array area of the common well (Col 8 Lines 55-60).

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Regarding claim 18, Miida teaches wherein the contact for the power source is connected to a source or a drain of the transistor for selection and supplies the power source voltage to the semiconductor area through the transistor for selection (Col 9 Lines 57-67; Col 10 Lines 1-6).

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miida (US6, 051,857) in view of Takenuchi (US 4,149,192).

Miida teaches of the solid-state imaging device as taught above in claim 2, but doesn't particularly teach wherein the plurality of the picture elements are divided to a plurality of picture element groups, the plurality of picture element groups are arranged in the picture element array area at predetermined intervals, and the contacts are disposed between adjacent picture elements groups among the plurality of the picture element groups.

Takenuchi teaches wherein the plurality of the picture elements are divided to a plurality of picture element groups, the plurality of picture element groups are arranged in the picture element array area at predetermined intervals, and the contacts are disposed

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between adjacent picture elements groups among the plurality of the picture element groups (Col 2 Lines 11-31).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Midi's solid-state imaging device with the system of Tikenuchi. Midi's solid-state imaging device would easily be modified to include the system of Tikenuchi as minimization of the overall transmission time would be achieved, as taught by Tikenuchi. Also both systems share cumulative features making them additive in nature.

7. Claims 12,14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miida (US 6,051,857) in view of Kunihiro (JP 58-137243).

Regarding claims 12 and 14, Miida teaches of the solid-state imaging device as taught above in claim 11, but fails to particularly teach wherein one of the contact and the contact for the power source is connected to a wiring arranged at predetermined intervals in the picture element array area and the other of the contact and the contact for the power source is connected to a shielding layer having a light-receiving window formed above the wiring.

Kunihiro teaches wherein one of the contact and the contact for the power source is connected to a wiring arranged at predetermined intervals in the picture element array area and the other of the contact and the contact for the power source is connected to a shielding layer having a light-receiving window formed above the wiring (constitution).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Midi's solid-state imaging device in the semiconductor circuit device of Kunihiro. Midi's solid-state imaging device would easily be modified to include the circuit

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device of Kunihiro as both systems share cumulative features making them additive in nature.

8. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miida (US 6,051,857) in view of Mitsui et al (US 5,734,457).

Regarding claim 19-22, Miida teaches of the solid state imaging device as taught above in claim 1, but fails to particularly teach wherein the plurality of picture elements include color picture elements each provided with a colored layer of a color filter and the well contacts are disposed only in the color picture elements of the same color among the color picture elements of plural colors.

Mitsui teaches wherein the plurality of picture elements include color picture elements each provided with a colored layer of a color filter and the well contacts are disposed only in the color picture elements of the same color among the color picture elements of plural colors (Col 6 Lines 38-65).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Midi's solid state imaging device with the filtering device of Mitsui as both systems can be easily modified as they share cumulative features making them additive in nature.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 5-6,8-9 recite the limitation "the wiring". There is insufficient antecedent basis for this limitation in the claim.

#### *Allowable Subject Matter*

11. Claims 13,15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

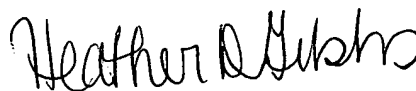
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather D Gibbs whose telephone number is 703-306-4152. The examiner can normally be reached on M-F 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 703-305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Heather D Gibbs  
Examiner  
Art Unit 2622

hdg



EDWARD COLES  
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